

Applicant: Thomas BECKER  
Docket No. R.307891  
Preliminary Amdt.

**AMENDMENTS TO THE SPECIFICATION:**

Page 1, please add the following new paragraphs before paragraph [0001]:

- [0000.2] CROSS-REFERENCE TO RELATED APPLICATIONS
- [0000.4] This application is a 35 USC 371 application of PCT/EP 2005/050175 filed on January 17, 2005.
- [0000.6] BACKGROUND OF THE INVENTION

Please replace paragraph [0001] with the following amended paragraph:

- [0001] ~~Prior Art~~ **Field of the Invention**

Please replace paragraph [0002] with the following amended paragraph:

- [0002] The invention is ~~based on a~~ directed to an improved fuel injection system for an internal combustion engine as generically defined by the preamble to claim 1.

Please add the following new paragraph after paragraph [0002]:

- [0002.5] Description of the Prior Art

Please replace paragraph [0003] with the following amended paragraph:

- [0003] One [[such]] known fuel injection system [[is]] known from the literature, such as Dieselmotor-Management [Diesel Engine Management], published by Verlag Vieweg, 2nd Ed. 1998, pages 280 to 284. ~~This fuel injection system~~ has a high-pressure side, which includes a high-pressure reservoir and injectors communicating with it for fuel injection at a cylinder of the engine. The high-pressure side furthermore includes a high-pressure pump, by which fuel is pumped into the high-pressure reservoir. The fuel injection system also has a low-pressure side, which communicates at least indirectly with a fuel tank. The low-pressure side may be the fuel tank, a return to the fuel tank, or a supply communication by way of

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which the intake side of the high-pressure pump is supplied with fuel from the fuel tank. A low-pressure pump, by which ~~fuel from the~~ fuel from the fuel tank is delivered to the intake side of the high-pressure pump, may be disposed in the supply communication. The high-pressure side is separate from the low-pressure side, to avoid fuel leakage. During engine operation, the fuel warms up, especially in the high-pressure side of the fuel injection system. If the engine is shut down after a relatively long period of operation, the fuel in the high-pressure side cools down, thus decreasing in volume, which can lead to the formation of vapor bubbles in the high-pressure side. As a result, the later re-starting of the engine is more difficult, because first the vapor bubbles in the high-pressure side must be positively displaced, before a fuel injection and hence combustion in the engine can begin.

Page 2, please replace paragraph [0004] with the following amended paragraph:

[0004] Advantages of the Invention

**SUMMARY AND ADVANTAGES OF THE INVENTION**

Please replace paragraph [0005] with the following amended paragraph:

[0005] The fuel injection system according to the invention ~~having the characteristics of claim 1~~ has the advantage over the prior art that vapor bubble formation upon cooling down of the fuel in the high-pressure side is avoided, since fuel from the low-pressure side can flow into the high-pressure side to compensate for the reduction in volume, and reliable starting of the engine is thus made possible. At a high fuel temperature, there is no leakage or at most only very slight leakage, so that a substantially increased quantity of fuel need not be fed into the high-pressure side.

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Please replace paragraph [0006] with the following amended paragraph:

[0006] Advantageous In the dependent claims, advantageous features and refinements of the fuel injection system of the invention are recited disclosed. [[The]] One embodiment according to claim 2 makes simple temperature-dependent control of the communication of the high-pressure side with the low-pressure side possible. [[The]] Another embodiment of claim 3 makes a simple embodiment of the valve device possible. Because of the In a further embodiment of claim 6, a long sealing gap is present, so that at a high fuel temperature, the communication with the low-pressure side is reliably closed, and there is no leakage or only slight leakage. The embodiment of claim 7 or claim 8 makes a A space-saving arrangement of the valve device is possible without major added engineering expense.

Page 3, please replace paragraph [0007] with the following amended paragraph:

[0007] Drawing      **BRIEF DESCRIPTION OF THE DRAWINGS**

Please replace paragraph [0008] with the following amended paragraph:

[0008] One exemplary embodiment of the invention is shown in the drawing and described in further detail in the ensuing description. Fig. 1 schematically shows a fuel injection system for an internal combustion engine, and Fig. 2 shows a valve device of the fuel injection system of Fig. 1 enlarged and in section. Other features and advantages of the invention will become apparent from the description contained herein below, taken in conjunction with the drawings, in which:

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Please add the following new paragraph after paragraph [0008]:

[0008.2] Fig. 1 schematically shows a fuel injection system for an internal combustion engine, and

Please add the following new paragraph after paragraph [0008.2]:

[0008.4] Fig. 2 shows a valve device of the fuel injection system of Fig. 1 enlarged and in section.

Please replace paragraph [0009] with the following amended paragraph:

[0009] **Description of the Exemplary Embodiment**

**DESCRIPTION OF THE PREFERRED EMBODIMENT**

Page 6, please replace paragraph [0014] with the following amended paragraph:

[0014] The valve device 42 described above may be disposed at an arbitrary point in the high-pressure side of the fuel injection system, for instance at the high-pressure reservoir 16, in the line 15 between the high-pressure pump 14 and the high-pressure reservoir 16, in one of the lines 18 between the high-pressure reservoir 16 and an injector 20, at an injector 20, or at a connection element 60 of one of the lines 15, 18 at one of the components. Preferably, the valve device 42 is integrated with one of these components, or as shown in Fig. 1 is integrated with a connection element 60; the outer element 46 is formed by the component, a housing part [[62]] of the component, or the connection element 60. Thus the only additional components needed for the valve device 42 are the inner element 44 and the line 40. The connection element 60 may for instance be a connection stub or a union nut for connecting a line 15 or 18 to one of the components of the high-pressure side.

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Page 7, please add the following new paragraph after paragraph [0016]:

[0017] The foregoing relates to a preferred exemplary embodiment of the invention, it being understood that other variants and embodiments thereof are possible within the spirit and scope of the invention, the latter being defined by the appended claims.